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# The intergovernmental fiscal outlook and the implications of Russia's war against Ukraine, high energy prices and inflation

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## Abstract

### **The intergovernmental fiscal outlook and the implications of Russia’s war against Ukraine, high energy prices and inflation**

Less than two years after the start of the COVID-19 pandemic, Russia’s illegal, unprovoked and unjustifiable war of aggression against Ukraine has triggered the biggest military confrontation in Europe since World War II. Many OECD countries have reacted to Russia’s aggression by providing military and humanitarian aid to Ukraine and by imposing economic sanctions on Russia, which has accentuated supply chain disruptions, especially in the energy sector. A combination of these supply shocks with a demand shock caused by expansionary fiscal and monetary policies to tackle the pandemic has created inflationary pressures on a scale not seen in decades. Central banks around the world are acting to fulfil their price stability mandates by increasing interest rates and by engaging in quantitative tightening (primarily the selling of government bonds to reduce central bank balance sheets), all of which put pressure on borrowing costs at a time when governments are engaging in expansionary fiscal policy to alleviate the impact of inflation. The objective of this policy note is to examine the main consequences of this challenging environment for the fiscal stance of different levels of governments. These include the weakening outlook for government revenues in times of high expenditure pressures from a more rapid energy transition as well as high borrowing costs.

*Keywords:* fiscal federalism, state and local governments, subnational fiscal projections, energy crisis, tax policy

*JEL classification:* H12, H68, H77

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# The intergovernmental fiscal outlook and the implications of Russia's war against Ukraine, high energy prices and inflation

## 1. Introduction

The path of the global economy has become more uncertain since 2020. Less than two years after the start of the COVID-19 pandemic, Russia's illegal, unprovoked and unjustifiable war of aggression against Ukraine has triggered the biggest military confrontation in Europe since World War II. Many OECD countries have reacted to Russia's aggression by providing military and humanitarian aid to Ukraine and by imposing economic sanctions on Russia, which has accentuated supply chain disruptions, especially in the energy sector. This disruption comes at a moment when industries have not yet recovered from supply-chain bottlenecks caused by past measures to contain the COVID-19 pandemic as well as from those still in place, notably in China.

A combination of these supply shocks with a demand shock caused by expansionary fiscal and monetary policies to tackle the pandemic has created inflationary pressures on a scale not seen in decades. Central banks around the world are acting to fulfil their price stability mandates by increasing interest rates and by engaging in quantitative tightening (primarily the selling of government bonds to reduce central bank balance sheets), all of which put pressure on borrowing costs at a time when governments are engaging in expansionary fiscal policy to alleviate the impact of inflation.

The objective of this policy note is to examine the main consequences of this challenging environment for the fiscal stance of different levels of governments. These include the weakening outlook for government revenues in times of high expenditure pressures from a more rapid energy transition as well as high borrowing costs.

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This document was discussed at the Interim Meeting of the Network on Fiscal Relations across Levels of Government on 29 November 2022. It was prepared by Pietrangelo de Biase, Policy Analyst, under the supervision of Sean Dougherty, Head of Network Secretariat. A special thanks to Network delegates and the internal OECD reviewers, Boris Cournède (Economics Department, or ECO) and Antti Moisio (Centre for Entrepreneurship, SMEs, Regions and Cities, or CFE) for their feedback. In addition, useful comments were received from Piet Battiau, David Bradbury, Bert Brys, Assia Elgouacem, Jonas Teusch and Kurt Van Dender (Centre for Tax Policy and Administration), Isabelle Chatry, Michael Flood, Peter Haxton, Varinia Michalun and Margaux Vincent (CFE), Luiz de Mello (ECO), Jean-Christophe Dumont and Ave Lauren (Directorate for Employment, Labour and Social Affairs), Jón Blondal (Public Governance Directorate), Kate Lancaster, Gabriela Miranda and Bill Tompson (Global Relations and Cooperation Directorate), as well as Andoni Montes (Fiscal Network).

## Key Findings

1. Based on OECD projections, in just a year, growth prospects for 2022 fell from 3.9% to 1.5%, while for 2023 from 2.5% to 0.8%. At the same time, headline inflation was revised up, from 4.4% to 9.3% for 2022 and from 3.1% to 6.8% for 2023.<sup>1</sup>
2. In many OECD countries, subnational governments' (SNGs) finances were sound coming out of the COVID-19 pandemic; the central support provided to SNGs and to households and businesses reduced and often more than offset the impact of the crisis on SNGs' finances.
3. Central government finances are in a delicate situation, as they were already incurring large deficits prior to the energy crisis and are now suffering from additional expenditure pressures and high borrowing costs.
4. Countries have adopted several measures to mitigate the impact of high energy and food costs, with "untargeted" price support as the most frequent measure followed by targeted income support.
5. As energy taxation and social protection are mostly centralised, most measures implemented by OECD countries to cushion the impact of the energy crisis were centrally imposed and the costs have been funded centrally.
6. Despite the fact that costs of integrating refugees borne by SNGs are being partially covered in the short-term by EU aid and reduced by national and private support to war refugees, if refugees remain for an extended period, SNG expenditures on education and housing are likely going to grow, affecting SNGs' budgets more significantly.
7. The current energy crisis has made evident the importance of a more rapid energy transition, which depends strongly on SNGs' investments in housing, economic affairs and environmental protection, all of which are significantly decentralised across most OECD and partner countries.
8. Going forward, SNG finances are expected to deteriorate, based on the analysis in this note. Using projections of December 2021, SNGs' revenues over 2021 to 2023 were expected to grow in real terms by 3.5% to 13.2%, with an average growth of 6.9%. Now, based on projection data less than 12 months later, SNG revenues are expected to grow by 1.1% to 10.2% with an average growth of 4.5%, which represents an average decrease of 2.4 percentage points.
9. This weakening outlook for SNGs' revenues will likely be combined with high expenditure pressures from a more rapid energy transition and high borrowing costs, in a context where outstanding debt reached historic highs and central governments' finances are under pressure. Expenditure prioritisation and a strong fiscal framework are going to be essential going forward.

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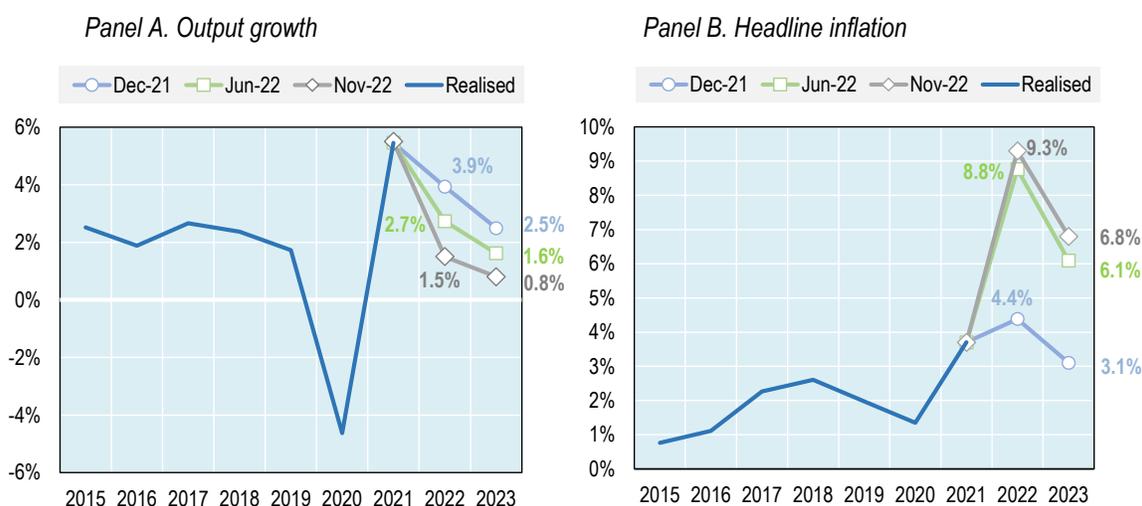
<sup>1</sup> Projections from OECD Economic Outlook n°110 (22 November 2022).

## 2. Economic Context

### **Over 2022, economic growth has been revised down while projected inflation has been revised up, raising the risks of stagflation in some OECD countries**

The COVID-19 pandemic and Russia's large-scale invasion of Ukraine have had heavy impacts on growth and inflation prospects. OECD projections of growth and inflation for 2022 illustrate this dynamic. In less than a year, output growth prospects for 2022 declined from 3.9% to 1.5%, while projections for 2023 were revised down from 2.5% to 0.8% (Figure 1, Panel A). At the same time, headline inflation was revised up, from 4.4% to 9.3% for 2022 and from 3.1% to 6.8% for 2023 (Figure 1, Panel B). The magnitude of the revisions shows how rapidly the economic context has changed and suggests that some countries might face a period of stagflation.

**Figure 1. Growth and inflation outlook**



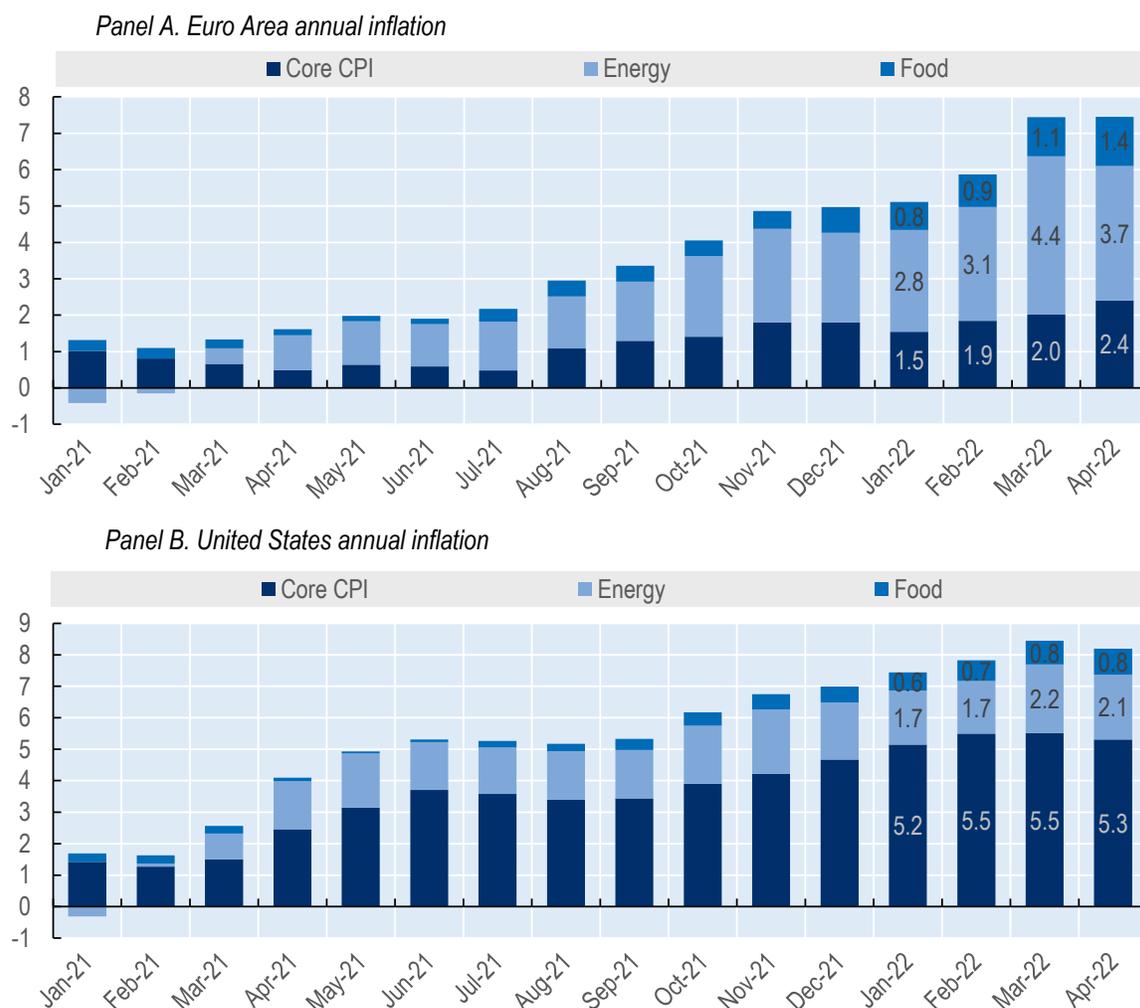
Source: OECD Economic Outlook of n° 110 (December 2021), n°111 (June 2022) and n°112 (November 2022).

### **Inflation drivers vary significantly between the European Union and the United States, with the former heavily affected by increases in food and energy prices**

As a result of high inflation and low growth, households finances are under pressure (OECD, 2022b). The difference is especially large when considering energy and food prices, which were pushed up by the war, aggravating the situation of households. Figure 2 reveals that inflationary pressures arise from different broad sectors. In the Euro area, headline inflation growth has been mostly driven by energy and food prices while in the United States, the growth of core inflation (which excludes energy and food prices from the price index) has exceeded price pressures from food and energy.

One of the reasons for the substantial difference in inflation drivers between the United States and Europe is the asymmetric impact of the Russia's aggression against Ukraine. The International Energy Agency (IEA, 2022) highlights that the war has triggered a major energy supply crisis, with global gas consumption predicted to contract in 2022 and experience a limited growth over the next three years (less than half of the annual growth experienced five years before the war). This contraction is particularly large in Europe, as Russia has been its largest supplier of gas in recent decades. With EU natural gas consumption remaining broadly stable and internal production declining by roughly two-thirds since 2010, EU's dependency on Russia's natural gas rose to more than 40% of its total consumption, with Germany's dependency reaching 65% (Figure 3).

Figure 2. Relative contribution of factors to headline inflation rates



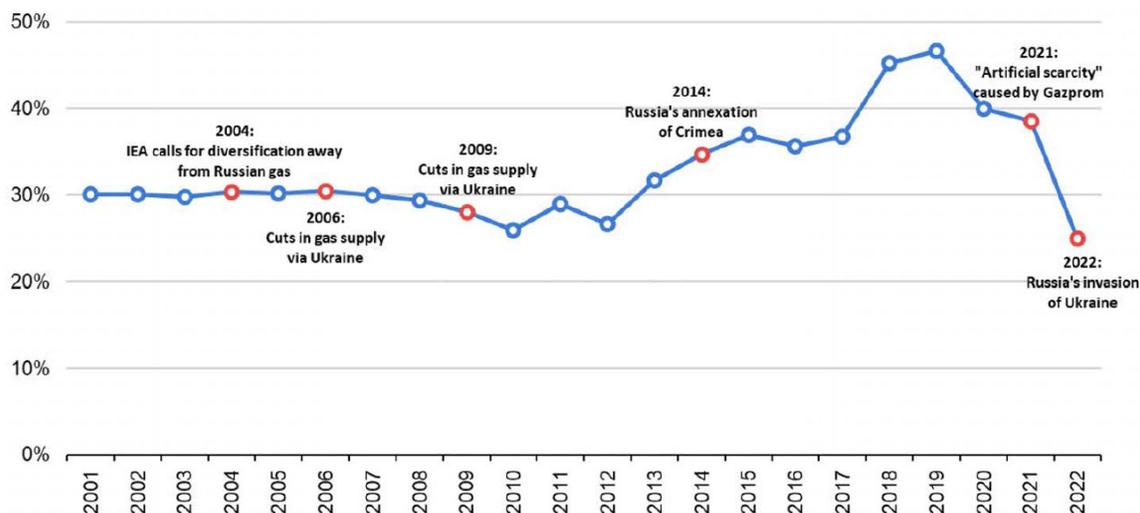
Source: OECD (2022b, 2022c) and Eurostat Harmonised Indices of Consumer Prices, OECD Consumer Price Indices.

The EU is on track to speed up the phase-out of Russian gas imports and, thus the IEA (2022) predicts that Russian pipeline gas exports to the EU will fall by between 55% and 75% from 2021 to 2025.<sup>2</sup> Liquefied natural gas (LNG) supply, which is a substitute for Russia's gas, is likely going to be outpaced by Europe's demand even if more than 60% of the growth in that market is channelled to Europe, raising the risk of prolonged tight market conditions and high energy prices. At the same time, EU countries will have to implement a combination of supply and demand side measures to phase out Russian gas in an orderly manner. This will likely involve investing in reinforcing gas infrastructure, renewables, diversifying supply, reducing gas demand and scaling up of domestically produced low-carbon gases.<sup>3</sup>

<sup>2</sup> It is worth noting that storage levels are sufficient for this winter but it is uncertain whether there will be sufficient gas for the winters of the next two years.

<sup>3</sup> The European Commission presented a plan in May 2022 to rapidly reduce dependence on Russian fossil fuels and fast forward the green transition (REPowerEU). The plan also involves measures to accelerate the rollout of renewables, reduce fossil consumption in industry and transport, and support green and smart investments.

Figure 3. Share of EU gas demand met by Russian supply, 2001-2022



Source: International Energy Agency (2022).

### 3. The current and projected fiscal stance across levels of government

#### ***In 2021, SNGs fiscal balances were above the 2019 level while those from central governments were still far from recovering from the COVID-19 shock***

Before delving into the impact of the current energy crisis and government measures through the channel of intergovernmental relations, it is worth examining the condition of central and subnational government (SNG) finances in the OECD. Overall, SNGs' finances are in a relatively good shape. Despite the effects of the pandemic on growth, in 22 out of 28 countries,<sup>4</sup> SNGs revenues have already returned to pre-crisis levels (in real terms) and in 16 of these 28 countries the revenues growth exceeded the growth in expenditures (see Figure 4, Panel A). On the other hand, the situation of central governments<sup>5</sup> is comparatively worse, as in only one of the 28 countries covered did growth of revenues surpass those of expenditures (Figure 4, Panel B).

There are at least three reasons why SNGs finances are in better shape than those of central governments. First, SNGs tend to rely more on recurrent taxes on immovable property, which has a relatively smaller tax buoyancy (i.e., sensitivity to economic growth) because its tax base is, by and large, property values (Dougherty & De Biase, 2021). Second, central governments bear more responsibilities than SNGs in stabilising economies and, thus, tend to spend more on fiscal support aimed at alleviating the impact of crises (for a detailed discussion, see De Biase & Dougherty, 2022). Third, many central governments have provided generous support to SNGs during the COVID-19 pandemic, and intergovernmental transfers are still (as of end-2021) far above their values prior to the pandemic (see Figure 4, Panel C) – on average, intergovernmental transfers received by SNGs are 13% higher than their values in 2019 in real terms.

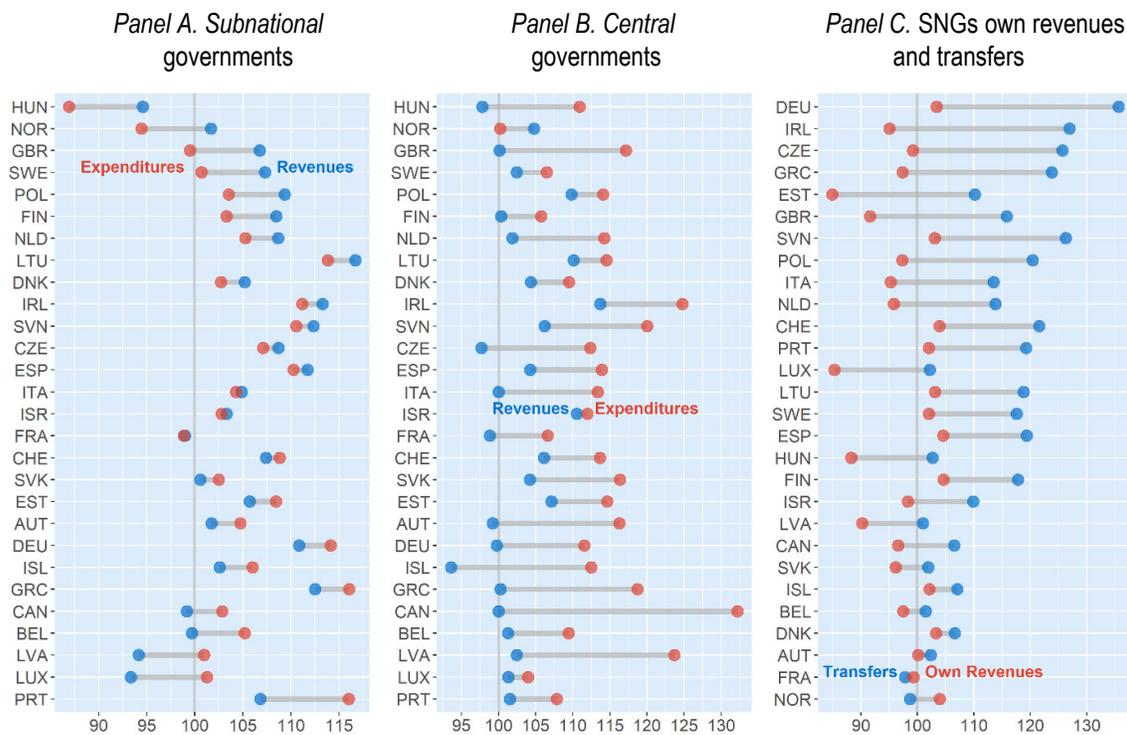
<sup>4</sup> This set of countries refers to those with data of 2021 available in the OECD System of National Accounts dataset as of 6 November 2022.

<sup>5</sup> Social security funds' revenues and expenditures are combined with those of central governments for the purposes of this note.

This practice of providing liquidity to SNGs is not uncommon in times of crisis. Central governments from at least nine OECD countries also provided support to SNGs through grants<sup>6</sup> in the 2008-09 global financial crisis (GFC). Nevertheless, there are substantial differences in the nature of this support that might have caused this unbalance in the fiscal situation of SNGs and central governments, which did not occur on that order of magnitude in the aftermath of the GFC. First, during the GFC, funds were provided based on the necessity to boost economic recovery after the economy contracted, while the amount of funds transferred in the COVID-19 crisis were defined prior to the peak of the crisis and were mostly based on expectations regarding the future impact of the crisis on subnational revenues and expenditures. As a consequence, the amount of support needed was even more uncertain when stimulus packages were designed to tackle the COVID-19 crisis, allowing for more support than needed to be given. Second, intergovernmental grants in the GFC were mostly earmarked for investment purposes, while funds provided to tackle the COVID-19 were mostly non-earmarked, which allowed SNGs to save these funds if they were not required, improving their balances. Thirdly, central governments also provided an enormous amount of support to businesses and households, which indirectly affected SNGs' tax revenues. As a result, the fiscal impact of the COVID-19 crisis was heavily asymmetric, favouring SNG finances at the expense of central governments.

**Figure 4. SNG and central governments' 2021 revenues and expenditures compared to 2019**

(Base of 100 in 2019, real values)



Note: Total revenues and consolidated expenditures in real values of 2021 divided by the real values of 2019 multiplied by 100. Ordered by the difference between revenues and expenditures growth. SNGs own revenues refer to total revenues minus transfers received from other levels of government – they therefore include their own taxes and non-tax revenues, such as user fees and charges. Ordered by the difference between transfers and own revenues growth.

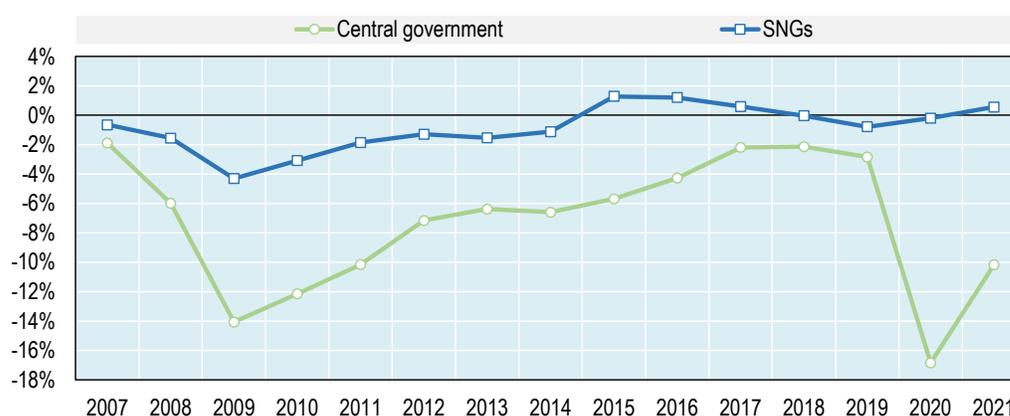
Source: OECD System of National Accounts and authors calculations.

<sup>6</sup> Australia, Canada, France, Germany, Japan, Korea, Norway, Portugal and Spain (Blöchliger et al., 2010).

Given this contrast in revenue and expenditure growth across levels of government, central governments ended up absorbing most of the COVID-19 shock in 2020 and continued predominantly to do so in 2021. In contrast, in more than half of the countries with data available for 2021, SNGs enjoyed a positive fiscal balance (net lending), as shown in Figure 5. Overall, SNGs' finances were in better shape in 2021 than they were in 2019, while those of central governments were nearly as negative as they were in 2009 or 2020 – the nadir (bottom) of the two crises of this century.

It is worth noting that this analysis masks substantial asymmetries across countries. As Figure 4 (Panel A) shows, there are countries in which 2021 subnational government revenues increased less than their expenditures did. In addition, SNGs suffer more from liquidity problems and, thus, if they were to undergo a fiscal imbalance in the same magnitude as central governments, it is likely that they would not have the necessary capacity to fulfil their obligations. This fact makes it particularly risky for SNGs to face severe fiscal imbalances (Herold, 2018).

**Figure 5. Median of central governments and SNGs' fiscal balances as a ratio to their revenues**



Note: Values are unconsolidated. Fiscal balance refers to net borrowing/lending.

Source: OECD System of National Accounts and authors calculations.

Moreover, despite the overall good shape of SNGs' finances, it is worth noting that their debt levels are at historical highs, which can have substantial risks (Figure 6). On the one hand, SNGs in many countries do not issue debt, but obtain loans instead, which may have floating rates, meaning that debt costs can react immediately to interest rate hikes, rapidly increasing the historically low interest paid-to-revenues ratio. On the other hand, the costs of other forms of SNGs funding, such as arrears, are likely to decrease with inflation as they are generally not indexed. In addition, this exposure might vary substantially across jurisdictions – meaning that some individual local/state governments might be exposed to such risks while others not. Another important factor to alleviate these risks is the extent of subnational cash balances. As SNGs face more challenges than central governments to access funding sources, cash balances can serve as a valuable cushion for shocks (see Box 1 for the case of the United States).

**Figure 6. SNGs outstanding debt and interest paid to revenues ratios**

(Base of 100 in 2019, real values)



Note: Median values for the set of OECD countries with data available in OECD SNA. Values are unconsolidated for interest but consolidated for debt. The left axis refers to debt-to-revenue ratios while the right axis to interest paid-to-revenues ratios. No data for debt levels in 2021.

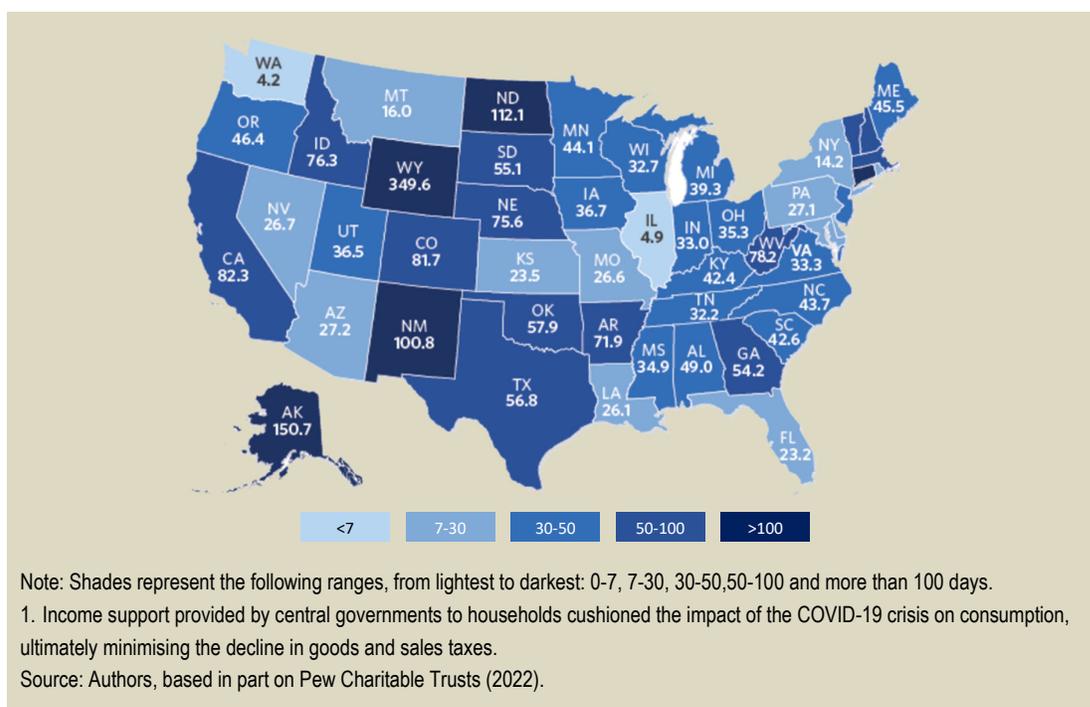
Source: OECD System of National Accounts and authors' calculations.

### Box 1. An asymmetric fiscal crisis: the US case

In 2021, the fiscal situation of US States improved significantly. States across the United States have exceeded revenue records over the past fiscal year. State governments saved roughly USD 220 billion in 2021, by far the largest figure in US history. States now have enough savings to run government operations for a median of roughly 42 days without needing any other source of funding – in 2019, this value was approximately 29 days (Figure 7). This record high result can be attributed to the support that central governments granted to SNGs and to households to tackle the pandemic. The first affected SNGs finances directly, while the second did so through income and sales taxes.<sup>1</sup> In addition, inflation will also positively impact taxes, especially through the price of goods and by moving people into higher tax brackets.

This situation allowed states to replenish rainy-day funds, which are projected to reach new highs by the end of 2022 fiscal year, but also fostered tax reductions in many states. These tax reductions are, in some cases, permanent, contrasting with the transient nature of the fiscal improvement, heavily dependent on central support to households and state. Fourteen states expanded tax rebate programmes and implemented an income tax cut (either corporate or personal), eleven states provided new additional supplementary welfare allowances and five made other reforms. Some specific examples are those from Arizona and Ohio, which cut their income taxes, New Mexico and Maryland, which expanded their state Earned Income Tax Credit (EITC). The fact that some measures are permanent can not only make SNGs more vulnerable to future crises but also suggests that central governments may have provided too much support to SNGs during the pandemic, which may cause distortions in fiscal policy across various levels of government. It is especially revealing that multiple states are cutting taxes when the central government just faced its largest and second largest deficits in its history in 2020 and 2021, respectively.

**Figure 7. Number of days US states could run on savings alone (2022 fiscal year)**



***SNGs' finances are expected to deteriorate and in some countries the updated projection indicates a loss in revenues in the same order of magnitude experienced at the peak of the 2008-09 global financial crisis***

Despite the current good shape of SNGs finances, they are expected to deteriorate going forward. A reduction in economic growth will directly affect SNGs revenues. Although SNGs revenues tend to be more stable than those from the central government, their short-term buoyancies<sup>8</sup> (i.e. sensitivity of government revenues to economic activity in the short-term) are still close to unity, meaning that a reduction in GDP growth will almost proportionally affect their revenues. There are, though, substantial asymmetries across countries – SNGs buoyancy coefficients tend to vary from 0.68 to 1.88,<sup>9</sup> meaning that the impact of a reduction in economic growth can be up to nearly three times higher for SNGs in one country compared to others. These variations are mostly driven by differences in their tax mixes, with the impact being more substantial for SNGs relying on corporate income tax revenues and less substantial for those who rely mostly on property taxes<sup>10</sup> (for more details, see Dougherty & De Biase, 2021).

Taking these differences in SNGs tax mixes into consideration, as well as the OECD internal and published projections for GDP real growth, it is possible to project SNGs revenues for the near-term future. Figure 8,

<sup>8</sup> Buoyancy is an estimate that captures the sensitivity of government revenues to economic activity based on historical data. Buoyancy coefficients capture both the tax elasticity with respect to economic activity and the changes in the tax system made in the past. A buoyancy of 1.1 means that when GDP increases by 1% revenues are going to increase by 1.1%. For a detailed discussion of SNGs long-term buoyancies see (Dougherty, De Biase, et al., 2022) and for an analysis of SNGs short-term buoyancies see (Dougherty & De Biase, 2021).

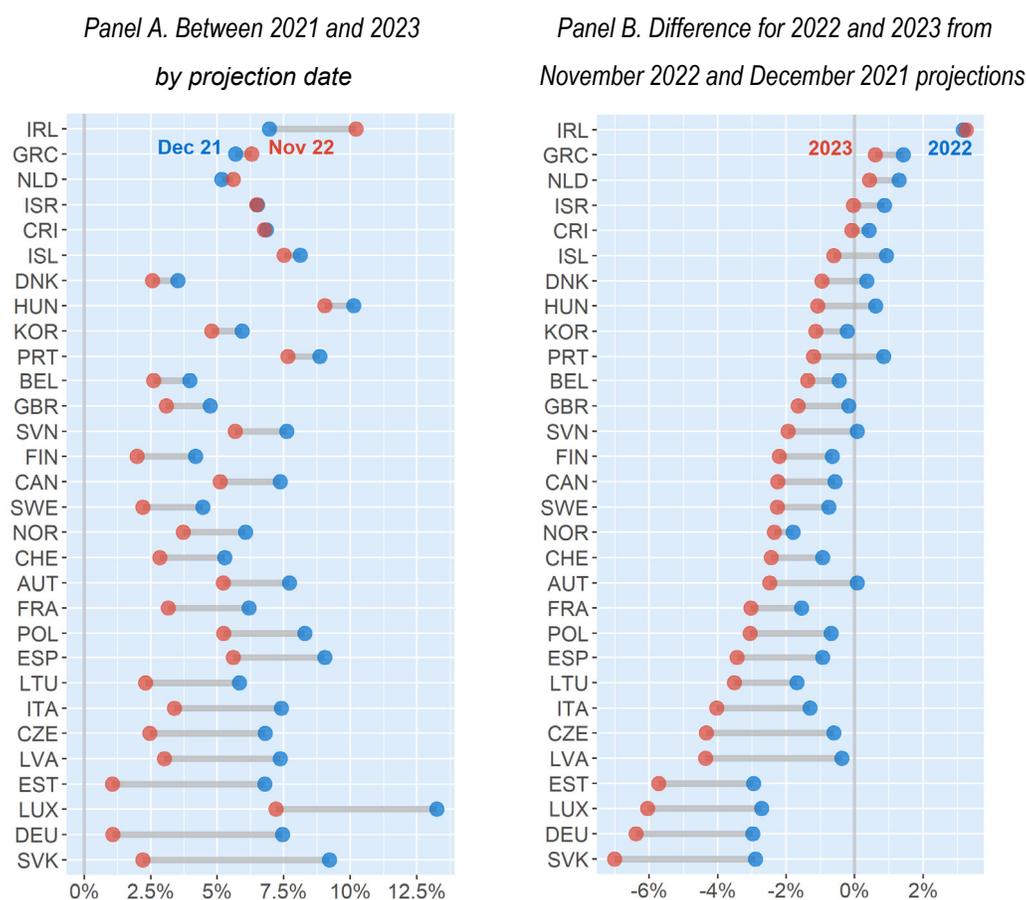
<sup>9</sup> Values estimated considering the mean group estimator for each type of tax (Dougherty & De Biase, 2021).

<sup>10</sup> Property taxes at the subnational level tend to refer to recurrent taxes on immovable property and their tax bases are principally properties' capital values (OECD, 2021a). Therefore, these taxes follow the asset cycle, which can differ strongly from the typical economic cycle (Princen et al., 2013).

below, illustrates how revenue collection is expected to deteriorate at the subnational level in OECD countries. This figure's Panel A examines the projected SNGs own revenues growth in real terms between 2019 and 2023 by projection date. In December 2021, the OECD projected that member countries would grow 3.9% in 2022 and 2.5% in 2023 – in other words, a vigorous recovery from the COVID-19 pandemic. Nevertheless, as soon as Russia invaded Ukraine, this outlook deteriorated significantly and as of November 2022 OECD member countries' GDP is projected to grow by 1.5% in 2022 and only 0.8% in 2023 (refer to Figure 1). This shock is projected to affect SNGs' revenues substantially. Considering the outlook from December 2021, SNGs revenues would grow by 3.5% to 13.2%, with an average of 6.9% between 2021 and 2023. Now, less than 12 months afterwards, SNGs revenues are projected to grow by 1.1% to 10.2% with an average of 4.5%, which represents an average decrease of 2.4 percentage points.

Figure 8 (Panel B) shows the difference between the projections as of November 2022 and as of December 2021 by year. For 2022, in 19 out of 30 countries SNGs revenues are expected to grow less in the more recent projection in comparison to the previous years' projection. For 2023, this number reaches 27 out of 30. The average decrease was of 0.5pp and 2.5pp in 2022 and 2023. In Slovakia, Germany and Luxembourg, they are higher than 6pp for 2023. This decrease is at the same order of magnitude as the decline in revenues that SNGs suffered in 2009 in these countries (i.e., about 6pp for Germany and Luxembourg). This substantial shift in the outlook cannot be overlooked. There are still substantial uncertainties and it is likely that future projections revise them down once again, depending on how the war in Ukraine and supply and demand dynamics for energy will evolve. In addition, there is a delay between government revenues' and expenditures' growth caused by inflation. Revenues tend to increase more rapidly, leading to a better fiscal performance in the short-term but in the medium-term, labour and overhead costs will also increase, potentially reversing the situation.

Figure 8. Projected SNGs own revenues growth in real terms



Note: Values are consolidated. Projections used the mean group estimator for each type of tax revenues from Dougherty & De Biase (2021). SNGs' own revenues refer to total revenues minus transfers received from other levels of government – they therefore include their own tax and non-tax revenues, such as user fees and charges.

Source: Authors calculations based on OECD Economic Outlook of n° 110 (December 2021), preliminary internal projections (November 2022), OECD System of National Accounts and OECD Fiscal Decentralisation Database.

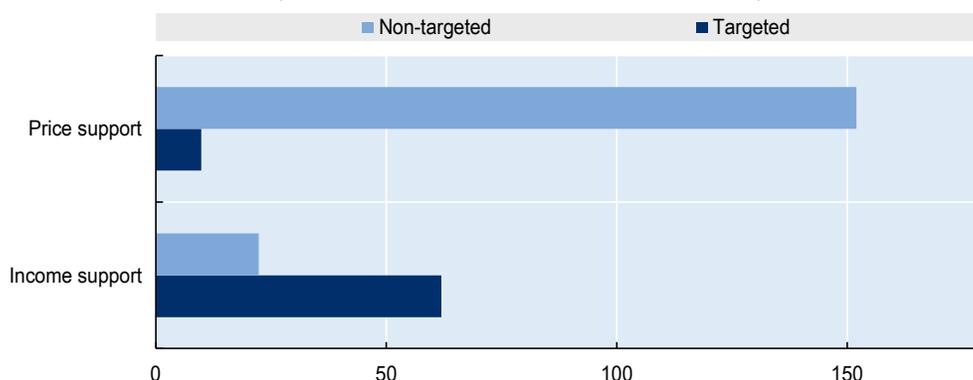
#### 4. Policies implemented across levels of government to cushion the impact of the energy crisis

**Countries have been adopting several measures to mitigate the impact of high energy and food costs, with untargeted price support being the most common type of measure**

In addition to the pressures on government revenues coming from slower economic growth, expenditure pressures are mounting as governments step in to cushion the impact of high energy and food costs on households and businesses. Multiple European countries have announced or already implemented support packages that can reach up to 2% of GDP and last throughout 2023 (OECD, 2022g). Figure 9 shows that the most common type of measure implemented across OECD countries is non-targeted price support, followed by targeted income support. Some countries also implemented targeted price support or non-targeted income support, but these were less common.

**Figure 9. Fiscal measures to offset energy costs have been poorly targeted**

(Based on 32 OECD and 3 non-OECD countries)



Note: Estimated expenditures incurred between October 2021 and December 2022. Loans, guarantees and capital transfers that do not immediately add to general government net lending are not included. Measures classified as income support are those that provide lump-sum transfers to energy consumers, i.e. households or businesses, to help alleviate energy cost increases. Price support includes all measures that reduce the post-tax energy price such as price controls, reduced electricity charges and network fees, VAT and excise tax reductions, and compensation to distributors for selling energy products at reduced prices. Measures classified as targeted are ones provided to specific groups, such as vulnerable households or businesses. Non-targeted measures apply to all consumers with no eligibility conditions.

Source: OECD (2022g).

More specifically, price support accounts for 66% of the amount of the relief packages provided and 94% of this portion was non-targeted (OECD, 2022j). In contrast, the remaining 34% of the total value of the relief packages comes from income support measures, of which 73% have been targeted. Although simpler to implement, price controls (untargeted price support) tend to support rather than curb demand and, thus, blunt incentives to reduce consumption. As the imbalance in demand and supply of energy is expected to be long-lasting, means-tested transfers to households, ideally considering not only income but also households' vulnerability to high energy prices, though are more administratively complex and potentially less timely than less well-targeted measures, should reduce disincentives for energy savings.

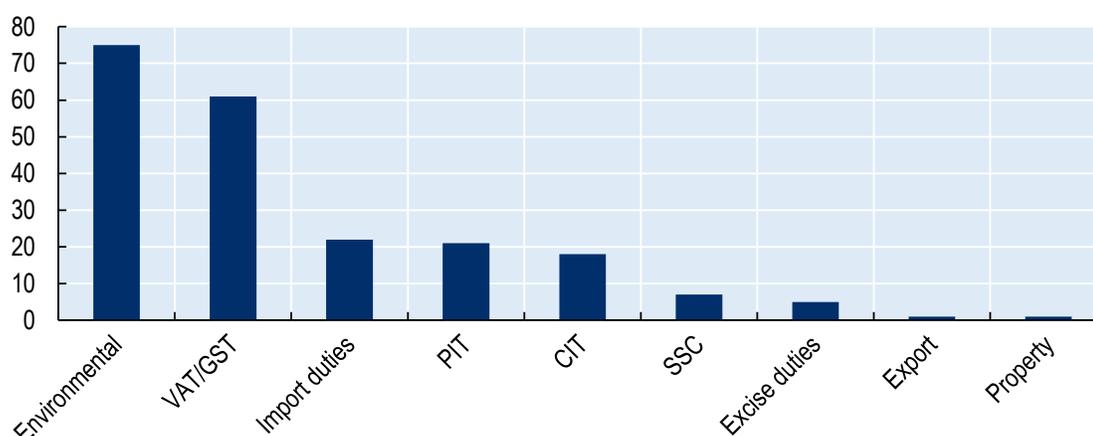
When it comes to tax measures, temporary indirect tax reductions have been the most common form of tax measure implemented by countries (Figure 10). The most frequent tax measures implemented were those related to reductions in environmentally-related taxes and for excise taxes on petroleum products,<sup>11</sup> followed by reductions in VAT/GST (value added or goods and services tax) rates on fuel products and import duties. VAT/GST rates applied to electricity and natural gas products were also temporarily reduced in many European countries. Many OECD countries have also increased the value of commuting expenses that can be deducted from the personal income taxes (e.g., Austria, Finland, France and Germany). Corporate income tax (CIT) benefits were less common but found in some countries (e.g., Italy). Lastly, a few countries also provided VAT exemptions or rate reductions for the purchase of energy-saving and renewable energy products (e.g., solar panels, heat pumps, heaters), such as Belgium, Luxembourg, the Netherlands, Portugal, and the United Kingdom. For a more detailed analysis of tax measures, see OECD (2022c).

Energy tax reductions (e.g., excise duties or VAT/GST reductions) also are untargeted price measures as their effect is to reduce the price of the targeted product to all consumers. Therefore, they are similar to price controls in keeping a high level of consumption, which raise both equity concerns (as high income household spending is also covered) and environmental concerns (as consumption of polluting energy products is also subsidised) (OECD, 2022j). Targeted income support has none of these drawbacks and is less costly, as higher-income groups do not receive it.

<sup>11</sup> There are overlaps between these two categories.

**Figure 10. Number of tax measures introduced in response to rising energy prices**

(Based on all OECD countries and other Inclusive Framework countries)



Note: 1. Covers the period between September 2021 and May 2022. Environmental, VAT/GST, PIT, CIT and SSC refers to environmental related taxes, value added taxes/good and service taxes, personal income taxes, corporate income taxes and social security contributions. Note 2. This figure draws on data collected by the OECD on government support measures implemented in 89 jurisdictions, including 74 member jurisdictions of the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting.

Source: OECD (2022c).

***Energy taxation is mostly centralised but SNGs can be affected by reduction in central taxes as roughly half of their revenues come from intergovernmental transfers***

Most measures implemented so far have been related to either energy taxation or income support. Both energy taxation and social protection are significantly centralised in most OECD countries. With regard to taxes on energy use, Figure 11's left-hand axis shows the average effective energy tax rates across OECD countries while its right-hand axis shows the percentage of the tax revenues collected by SNGs. In respect to the revenues collected, SNGs collect 1) more than half of the revenues in Canada, Colombia and the United States; 2) between 25%-30% in France and Japan; 3) between 8-15% in Korea, New Zealand, Spain and Türkiye; 4) between 1% and 7% in Austria, Belgium, Germany, Italy and Portugal; and 5) a negligible amount in all other OECD countries. In addition, with the exception of France, all other countries in which excise taxes are significantly or moderately decentralised, average effective energy tax rates are among the lowest across OECD countries and they are mostly applied to fuel products.

Another form of taxation on energy is through sales or value added taxes (VAT). These taxes usually apply equally to a wide range of goods and do not change relative prices between energy sources or factors of production (OECD, 2019). Countries can, though, change rates that are applied to some specific goods, such as energy goods and several OECD countries are doing so. For examples, see Box 2, on policy measures implemented by several countries. Nevertheless, tax revenues from those sources are mostly centralised, with SNGs from only a few countries being responsible for the collection of a portion of sales taxes or VAT revenues. These countries are the United States (100%), Canada (61%), Germany (51%), Japan (21%), Hungary (14%), Korea (14%), Türkiye (12%), Spain (11%), France (10%) and Portugal (4%). Therefore, as EU countries (which are suffering most from energy price hikes) have a largely centralised energy taxation system, tax policies to curb the impact of high energy prices are mostly centralised.

## Box 2. VAT measures introduced in response to rising energy prices

Measures have included: in June 2021, Spain reduced the VAT rate on energy bills from 21% to 10%; the measure has been extended several times since. Then in October 2021, Italy cut its VAT rate on the use of natural gas supplies for “civil and industrial uses” to 5% and the Czech Republic announced a VAT exemption in November 2021. Several other European countries followed suit in early 2022, including Belgium, Estonia, Lithuania, North Macedonia, and Poland. Türkiye also reduced the VAT rate on electricity used in residences and agricultural irrigation from 18% to 8% from March 2022. Outside of Europe, in June, Brazil’s states reduced indirect tax rates applied to fuels, natural gas, electricity/utilities, collective transport and communication services (considered as “essential goods”) as a result of national legislation, which led to three months of deflation, despite global inflationary pressures. In March 2022 the Costa Rican government introduced a VAT exemption for purchases of electrical energy intended for distribution. From April 2022, El Salvador temporarily reduced the VAT rate on fuels and Kenya halved the VAT rate on automotive fuels to 8% as part of its 2022 budget. Other VAT measures have included temporary VAT holidays for the purchase of electric bicycles and cars (British Columbia, Canada) and greater flexibility with respect to VAT repayments for businesses. Some countries have targeted VAT measures towards businesses and the agricultural sector.

Source: OECD (2022c) and National Treasury of Brazil (2021a, 2021b).

A key difference between excise taxes and VAT – the tax bases of the first are not prices but quantities of the underlying product, while the tax bases of the latter are the product’s price.<sup>12</sup> Consequently, rising inflation can increase the amount of VAT taxes that are paid for the same quantity of product, contributing to a decrease in households’ purchasing power. Tax cuts on VAT, therefore, can have the effect of removing this positive effect of inflation on tax revenues, but the same does not occur for excise taxes.

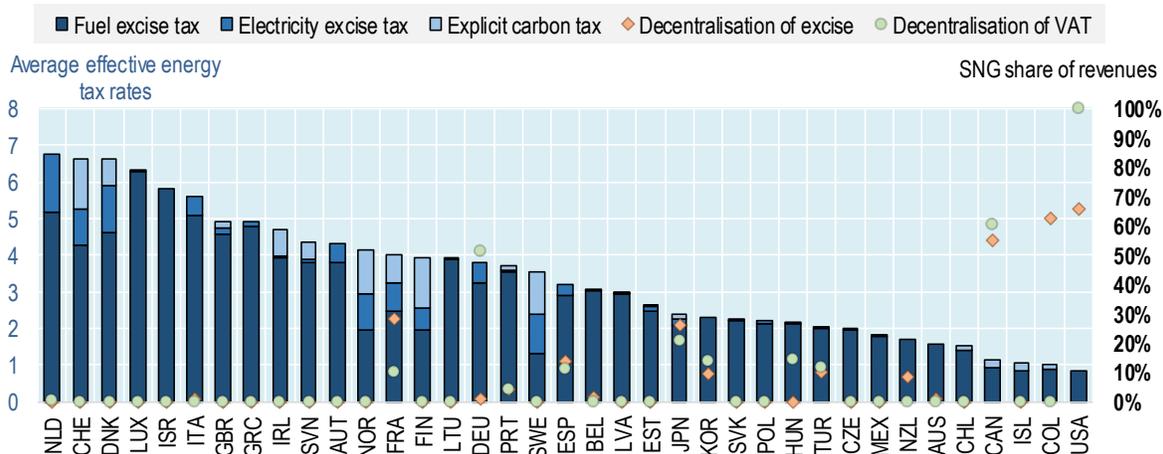
It is important to note that despite energy taxation being mostly centralised, SNGs can still suffer an impact from tax reductions implemented at the central level. That is because a substantial portion of SNGs revenues come from tax sharing arrangements (roughly half comes from intergovernmental transfers), if the taxes that are being reduced are in the pool of taxes for which revenues are shared with SNGs, then these reductions are also going to impact SNGs total revenues. In these cases, and if the decision was unilaterally made by the central government, central compensation to SNGs should be considered so that their financial plans are not abruptly disrupted. It is, therefore, important for central governments to coordinate these policies with subnational governments, as they might suffer an unexpected reduction in revenues, damaging their capacity to execute their budgets that were prepared considering revenues from these sources.

A last remark about the impact of high energy prices on SNGs’ finances concerns SNG-owned energy enterprises. In some OECD countries (e.g., Belgium, Canada, Germany, Finland), companies that provide energy products are owned by local or state governments. These companies, therefore, are crucial for setting prices for end consumers. In some OECD countries, these companies are facing financial problems and the central government is stepping in to provide the necessary support. For instance, in Germany, the federal government took control of Uniper, while in Finland the central government stepped in to provide additional guarantees to energy companies as they were in need of collateral assets to hedge electricity

<sup>12</sup> It is worth noting that a few countries have an ad valorem excise tax in force.

prices. If these companies are affected by a government policy aimed at controlling energy prices, a compensation for or even a takeover can be an option to avoid liquidity or insolvency problems.

**Figure 11. Energy taxation in OECD countries across levels of government**



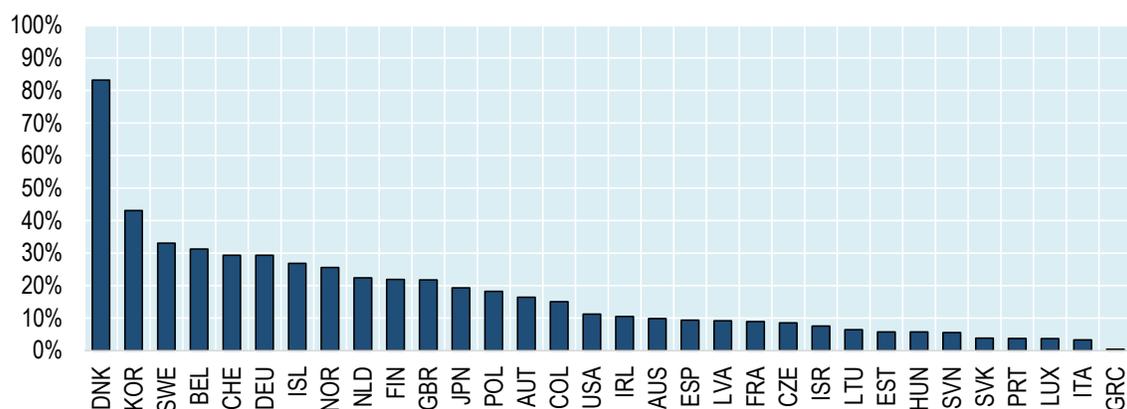
Note: Tax rates applicable on 1 July 2018. Average tax rates do not include electricity and heating imports, in order to avoid the double counting of this energy use. The right-hand axis refers to the decentralisation of all excise taxes (code 5121 in OECD Revenue Statistics).

Source: OECD (2019) for the right-hand axis and OECD Revenue Statistics for the left-hand axis.

***As social protection tends to be centralised, central governments are in charge of the majority of the income support measures to cushion the impact of high energy prices***

Social protection tends to be mostly centralised across OECD countries. On average, 83% of all social protection expenditure comes from the central government (Figure 13). Only in Denmark are SNGs' social protection expenditures mostly decentralised. In addition, SNGs have more difficulties to access financial markets than central governments and, thus, it is more challenging for them to rapidly obtain funding to boost social protection expenditures. For this reason, in times of crisis, the decentralisation of social protection expenditure tends to even decrease further (e.g., in 2009 and 2020 the decentralisation of these expenditures reached 15.7% and 16.6%, against 17.2% in 2019). As a consequence, central governments are responsible for the majority of the measures taken to minimise the impact of high energy prices on households.

**Figure 12. SNGs' social protection expenditure as a percentage of general government's**



Note: As of 2019, prior to the COVID-19 crisis. Values internally consolidated by subtracting the transfers between levels of government.  
Source: OECD System of National Accounts – COFOG dataset.

***Despite the fact that most measures taken are centralised, SNGs are stepping in and providing additional support in several countries***

In order to cushion the impact of high energy prices, SNGs from some OECD countries are either collaborating with the central government or implementing measures themselves. In most cases these measures are not as broad as those implemented by the central government because, as previously explored, most of the social protection and energy tax activities are centralised. Examples are:

- *Austria*: A Vienna owned utility company (Wien Energie) obtained a credit of EUR 2 billion from the Federal Government to minimise the problems in supply and demand of energy that the company faces (Reuters, 2022).
- *Belgium*: Flanders has decided to remove a tax imposed on electricity consumers for the electricity distributors' public service obligations, such as street lighting (OECD, 2022i).
- *Germany*: Multiple cities across Germany (e.g., Berlin, Munich) have started turning off spotlights on historic monuments and municipal buildings to both save energy and to encourage people to do so (Kennedy, 2022).
- *France*: Paris and Ile-de-France started turning off the ornamental lights of monuments hours earlier than usual to save energy (Le Monde, 2022).
- *Greece*: The central government announced a EUR 100 million fund from the EU's Recovery and Resilience Fund for the municipal energy communities to build photovoltaic stations that can be used to provide additional sources of energy to vulnerable households (Balkan Green Energy News, 2022).
- *Netherlands*: In addition to temporarily reducing the energy tax for households and businesses in 2022, the central government made EUR 150 million available to support vulnerable households with high energy bill or through insulation improving measures, which will be managed at the local level (Government of Netherlands, 2022).

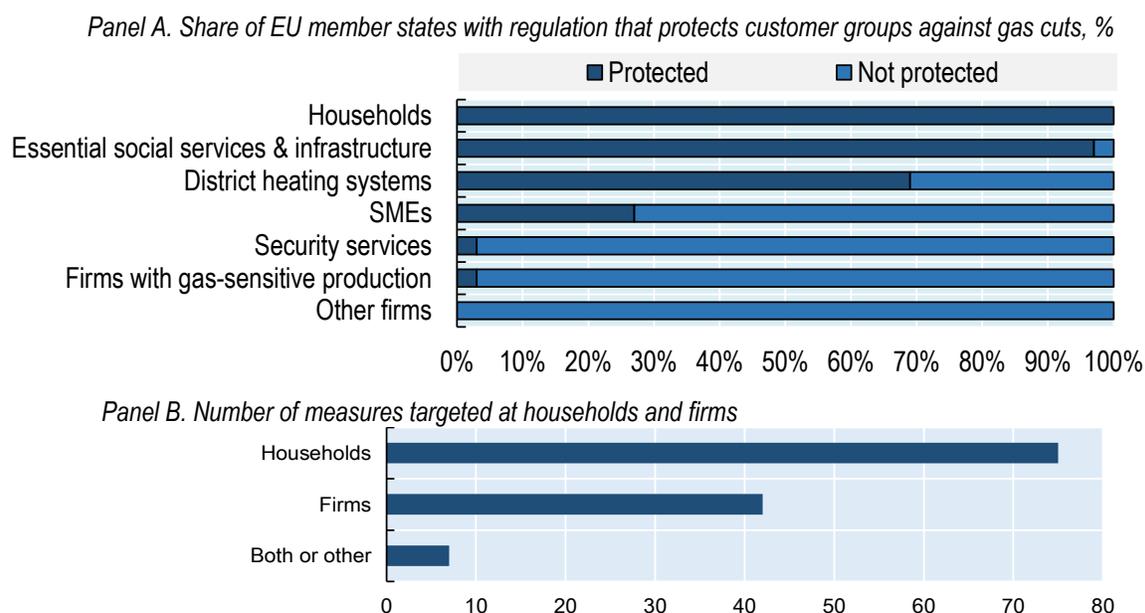
***The bulk of the support has targeted households, while firms are less protected against gas cuts and energy price hikes***

If supply and demand dynamics force gas rationing, then households tend to be more protected than companies (Figure 14, Panel A).<sup>13</sup> In other words, companies will bear the burden of cuts in supply, affecting their business and the economy. In addition, most of the measures implemented by countries aimed at households (Figure 14, Panel B). This contrasts with relief packages that tackled the impact of the COVID-19 crisis, when multiple businesses were also targeted, including by SNGs (Allain-Dupré et al., 2021). It is worth highlighting that although fiscal support to businesses can mitigate a rapid spread of a crisis, they can be extremely costly if not well targeted. Ideally, fiscal support should target businesses that are in real need (i.e., with difficulties to access external funding) and that have a business plan that is likely going to be viable in the aftermath of the crisis (Wolfram, 2022).

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<sup>13</sup> Note that the data is as of June 2022 and governments have been announcing more support packages to firms, including energy-intensive sectors, SMEs and of course firms in the energy sector.

**Figure 13. Number of tax measures introduced in response to rising energy prices**



Source: OECD (2022d and 2022b).

## Other implications of the war in Ukraine for intergovernmental relations

### ***Initial costs for integrating war refugees have been minimised by the help provided by private citizens and by EU aid but medium-term costs might impact SNGs' budgets***

In addition to the reduction in economic growth prospects and to costs related to measures aimed at protecting households and businesses from the energy cost hikes, Russia's war against Ukraine is likely going to have several other implications that can even affect intergovernmental relations in the medium and long-term. One of these is related to war refugees. Russia's large-scale invasion of Ukraine has created a refugee crisis at an scale unseen since World War II, with the EU absorbing nearly 4.8 million Ukrainian refugees since February, and three million more elsewhere.<sup>14</sup>

This enormous number of refugees have several policy implications for all levels of government. First, refugees need guidance, financial assistance, housing and language training.<sup>15</sup> Second, governments have been adapting to the special characteristics of these refugees, as they tend to have better education and may be more likely to find jobs. In particular, children, who represent a relatively larger share of Ukrainian refugees, need to continue their studies, which may have an impact on education systems. Third, it is uncertain how long these refugees will stay and how many more will come as the war's eventual outcome and the extent of the damage are highly uncertain. Fourth, the distribution of refugees across the EU has been highly asymmetric, with countries closer to Ukraine and Germany receiving the vast majority of the migrant flows (for details, see OECD, 2022d). As a percentage of total population, values are even more asymmetric, with Estonia and the Czech Republic absorbing more than 40 refugees per thousand inhabitants, followed by Poland, Lithuania and Latvia (with 36, 23 and 20 per thousand, respectively).

<sup>14</sup> Based on United Nations High Commissioner for Refugees (UNHCR) estimates, as of 8 November 2022.

<sup>15</sup> Usually language training tends to be provided to refugees after they have already spent some time in the host country. Nevertheless, in this specific case, most countries have already begun transitioning to medium and longer-term responses and almost all provide language training.

Within those countries, refugees tend to concentrate in specific areas: border regions and large urban areas. For example, in Poland, 42% of Ukrainians are registered in Poland's 12 largest cities, 20% of whom are in Warsaw. As a result between February and April 2022, the populations of Warsaw, Kraków, and Wrocław grew by 15%, 23% and 29% respectively (Union of Polish Metropolises, 2022).

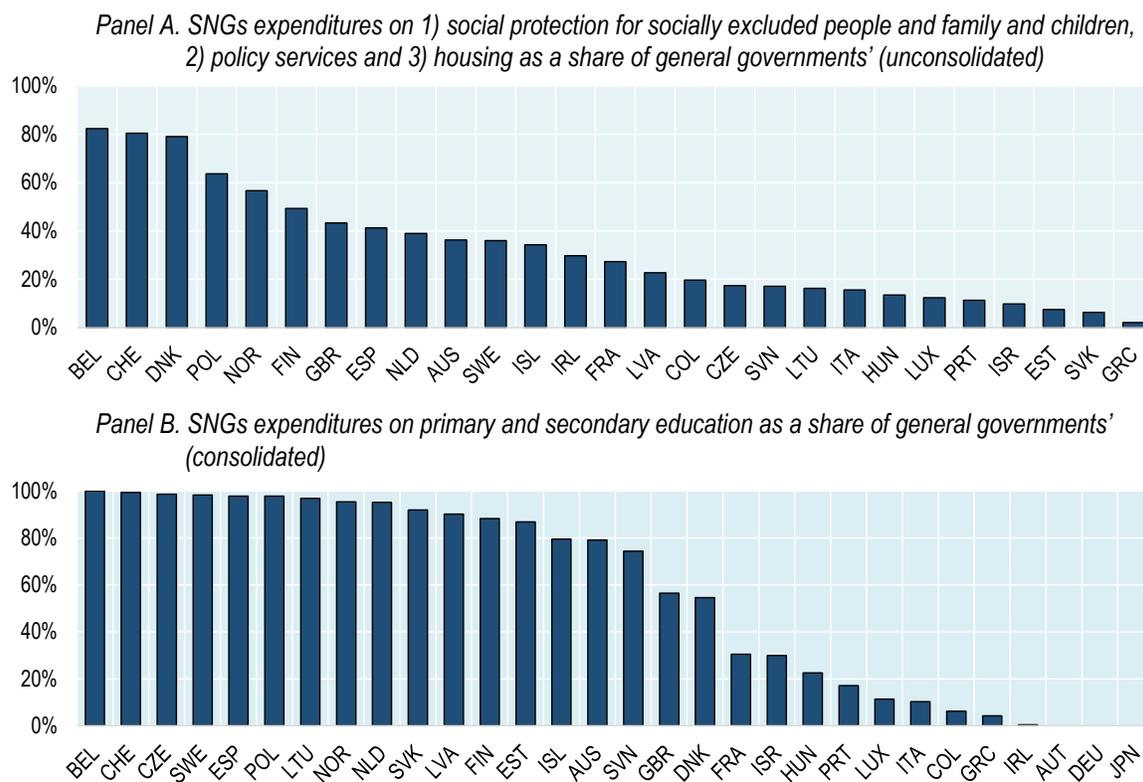
Historically, the cost for processing and accommodating each refugee was estimated around EUR 10 000 only in the first year and can be higher if the refugee or migrant is an unaccompanied minor – back in 2015, Germany alone spent 0.5% of its GDP on these costs (Blöchliger et al., 2017). In the Ukrainians' case, the mass inflow of refugees from Ukraine is estimated to cost European OECD countries about EUR 26.6 billion in 2022, with more than 50% of all costs being borne by Germany and Poland (OECD, 2022d). Overall, the distribution of these costs across levels of government depends on the phase in which the refugee is in the asylum process and on the country, as in each country they are decentralised to a different extent. There is a tendency for central governments to be in charge of registration, asylum procedures, refugee camps, emergency housing, immediate first aid and basic language training, while SNGs have a tendency to be responsible for child care, primary and secondary education, social welfare,<sup>16</sup> housing after refugee camps, active labour market policies (which is especially relevant for Ukrainians) and extended language training (OECD, 2022a).

In terms of government functions, the most important categories are: 1) social protection (for socially excluded people and for families and children), 2) policy services (for registration and organisation), 3) housing and 4) education. Figure 15, below, shows to which extent these government functions are decentralised across OECD countries. First, the combined expenditures on the first three government functions are moderately decentralised, with SNGs expenditures accounting for an average of 32% of those from the central government. Housing is even more decentralised (SNG spending accounts for 55% on average) and is particularly relevant for Ukrainian refugees as everyone who applies for protection in the EU under the Temporary Protection Directive is entitled to help with housing. These average numbers mask the fact that in some countries these expenditures are mostly decentralised, such as in Belgium, Switzerland, Denmark, Poland and Norway. The case of Poland deserves special attention, as the country is among those that are receiving the largest number of refugees. Second, Figure 15 (Panel B) reveals the extent to which primary and secondary education are decentralised. SNGs expenditures on these government functions accounts for an average of 57% of total government expenditures. This is a substantial degree of decentralisation.

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<sup>16</sup> It is interesting to note that social protection as a whole is mostly centralised but that support to refugees (under the umbrella of social protection for socially excluded people and for family and children in COFOG) is more decentralised.

**Figure 14. SNGs shares of the costs of integrating refugees**



Note: As of 2019, prior to the COVID-19 crisis. Values are unconsolidated for Panel A and internally consolidated for Panel B (by subtracting the transfers between levels of government).

Source: OECD System of National Accounts – COFOG dataset.

It is worth noting that the costs related to integrating refugees have been, so far, largely compensated by supranational via the EUR 17 billion support package provided by the EU (European Council, 2022; Lloyd & Gauret, 2022). In addition, the situation of Ukrainian refugees is so dramatic that citizens have stepped in to provide housing to Ukrainian refugees (OECD, 2022h). Therefore, at least in the short-term, most of these costs have been largely mitigated. There are, though, risks that cost related to integrating refugees are going to rise in the future. The housing provided to refugees is temporary while EU funds are aimed at the first reception of refugees. Moreover, in a context of rising inflation, concerns around capacities and resources to support refugees are growing. In Poland for example, over 70% of surveyed people want refugees from Ukraine to stay only on the condition that they take up a job and support themselves (DG COMM, 2022).

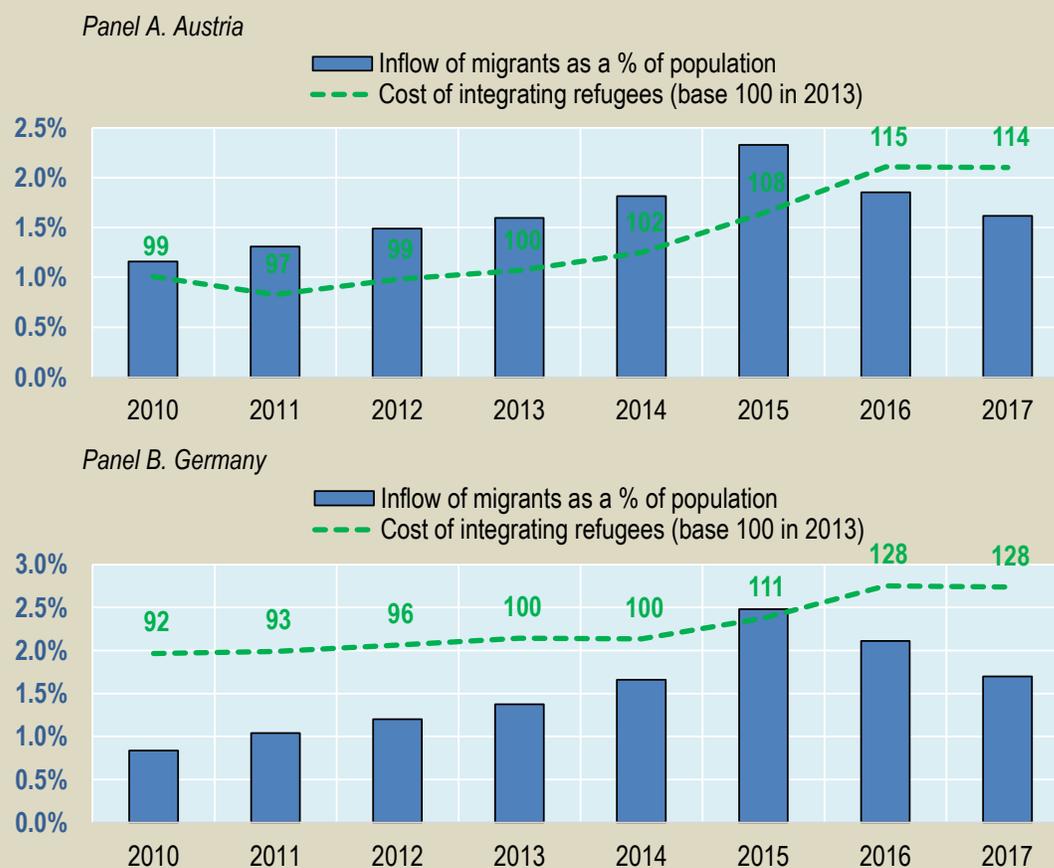
Many SNGs on the front line of welcoming Ukrainians are beginning to revise their more generous reception policies downward, such as cutting free transport. If Ukrainians have to (or decide to) stay for a longer period, then other costs will arise and these costs are likely to be mostly borne by SNGs – such as those related to education, durable accommodation and labour market inclusion. This represents a looming fiscal challenge for subnational governments that received a substantial number of refugees, especially considering that the number of refugees in this case is significantly larger than in previous instances (see Box 3 on the already substantial costs of integrating refugees during the 2015 refugee crisis).

### Box 3. Costs of integrating refugees: the German and Austrian cases

In 2015, Europe experienced a refugee crisis as a result of the war in Syria. More than 1.3 million people came to Europe to request asylum, which was the highest number of requests in the continent since World War II. OECD data shows that only Germany received more than 2 million migrants just in 2015 and more than 1.7 million in 2016, while annual migrants' inflows averaged 900 thousand people between 2010-2013. In other words, Germany went from receiving an inflow of migrants that accounted for 1.2% of its population to nearly 2.5% in that period. These numbers were similar in Austria, which received an inflow of migrants that averaged 1.4% of its population between 2010-2013, that jumped to 2.3% in 2015. The question is, did this affect SNGs' expenditures?

Figure 16 shows how subnational spending varied with: 1) social protection for socially excluded people and family and children, 2) policy services and 3) housing during this critical period. It reveals that the cost of these selected government functions did increase significantly in 2015 (there is an inflection in its growth rate this year). In addition, it also reveals that these relatively higher costs persisted also after the migration, which suggest that most costs are not borne in the year that migrants arrive but actually in the following years after receiving migrants. If this pattern repeats with Ukrainian migrants, SNGs in some countries might suffer a rise in their expenditures. It is a noble cause, so planning is essential.

Figure 15. SNGs expenditures on integrating migrants during the Syrian refugee crisis



Note: Values are unconsolidated.

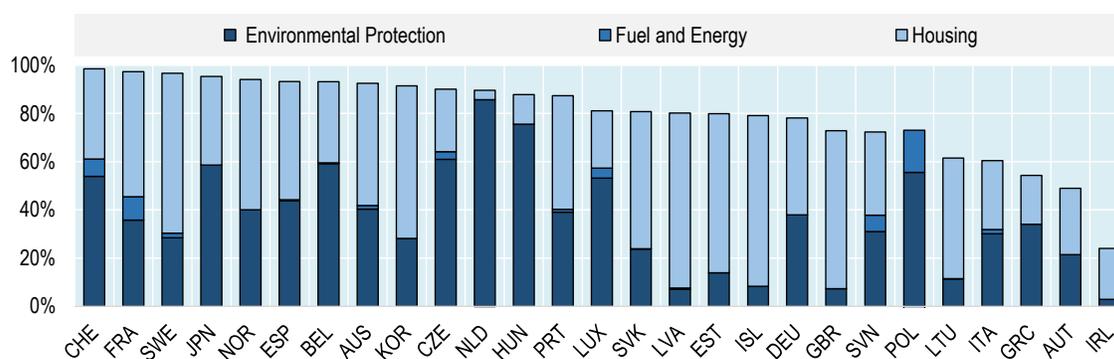
Source: OECD System of National Accounts – COFOG dataset.

It is worth noting that the benefits associated to these costs are not necessarily accrued to the jurisdictions that have borne them. Migrants frequently move between cities to find jobs and they can do so after receiving temporary accommodation, training and education. Some municipalities thus might receive a labour force trained in other jurisdictions, leading to asymmetries across regions. These asymmetries can be minimised, but to do so requires planning and intergovernmental coordination. For more, see OECD (2022f, 2022i) for effective multi-level coordination tools and on how regions can better integrate refugees.

### **Energy transition became a more prominent objective due to the vulnerabilities of current energy systems**

One last likely implication of the current energy crisis is the acceleration of energy transition. A trade-off between energy security and costs became evident as Europe cannot depend anymore on Russia's relatively cheaper energy exports.<sup>17</sup> Governments, therefore, are more likely to pursue reforms aimed at energy resilience and security. In the medium to long-term, accelerating the transition away from fossil fuels represents the best way of responding to the reduction in energy supply from Russia while also tackling climate change. IEA estimates that global investment in clean energy and energy infrastructure will need to more than triple by 2030 so as to meet the goal of zero net emissions by 2050 (OECD, 2022g). This is especially relevant for SNGs as a broad energy transition can only occur with their involvement and investment. Figure 17, below, reveals the extent to which investments in government functions particularly important for energy transition are decentralised (environmental protection, economic affairs related to fuel, and housing<sup>18</sup>). On average, 71%, 42% and 93% of general government's investments on environmental protection, economic affairs related to fuel, and housing are decentralised. This reveals that it is challenging for general governments to meet energy transition goals without subnational involvement. For more on decentralisation and energy transition see (Cournède et al., 2022; OECD, 2020).

**Figure 16. SNGs investments on selected government functions as a % of general government**



Note: Investments refer to the transactions labelled as "gross capital formation and acquisition less disposals of non-financial non-productive assets". Values are unconsolidated.

Source: OECD System of National Accounts – COFOG dataset.

### **Structural changes to global value chains may have an asymmetric effect across regions**

The current context has short and long-term implications that affect regions asymmetrically. With regard to the short-term, with economic sanctions accentuating disruptions in supply chains, regions that rely on inputs directly or indirectly affected by sanctions are more vulnerable to economic losses. This dependency varies widely across regions within the EU – for instance, the share of electricity production from natural

<sup>17</sup> In comparison to other suppliers that Europe can import from, such as those that export liquefied natural gas.

<sup>18</sup> Housing accounts for a quarter of CO<sub>2</sub> emissions (Cournède et al., 2022).

gas ranges from less than 10% to more than 70%, depending on the region (OECD, 2022f). This study also shows that some regions have comparatively high shares of exports to Russia and Belarus, depending on their industrial specialisation. Other regions are vulnerable to a shortage of their industry's inputs, especially of some precious metals that Russia exports, such as nickel, palladium and platinum.

With high global macroeconomic uncertainty and trade-wars, production strategies might face structural changes. Since the end of World War II, countries have opened their markets to other countries and, led by Japan, manufacturing companies implemented the “Just-in-Time” framework of saving costs by relying more on supply chains to keep minimum inventories and reduce setup time. Nevertheless, this cost minimising strategy depends on functional global chains that deliver products' inputs in a reliable and consistent manner. With economic sanctions and trade wars have becoming more common, this strategy has become riskier. Companies are adapting by shifting from “Just-in-Time” to a “Just-in-Case” approach, which involves an increase in inventories and diversification of suppliers.<sup>19</sup>

In the context of compounding crises threatening global supply and the provision of key commodities and inputs, several OECD countries have decided to support relocation strategies or indeed to double down on pre-existing plans to relocate some of their production processes. Overall, these strategies aim to secure national value chains in order to ensure the resilience of the systems of production in the event of new crises, including for essential production processes related to sanitary goods or food security. How regions draw links to global value chains will depend heavily on foreign direct investment (FDI), which is why they are a critical component of a regional attractiveness strategy and need to be better mapped and governed in the evolving global environment. Beyond FDI, regions need to consider how attracting investment and talent can support existing and native small and medium enterprises, give birth to new firms and help upgrade supply chains to be more resilient to future shocks (OECD, 2021b, 2022e).

These changes in strategy have the potential to greatly affect global supply chains and affect local development (OECD, 2022f). Local development frameworks often aim at integrating local industries to global supply chains. As companies aim at diversifying their suppliers, opportunities will likely arise in several regions, but at the cost of a reduction in orders from some regions. With companies from several countries implementing this strategy, both importers and exporters from OECD countries are going to be affected, with the potential to create structural changes in economic output across regions.

These asymmetries are especially relevant for intergovernmental relations as one of the main goals of functional intergovernmental relation frameworks involve reducing structural inequalities across regions. More precisely, intergovernmental grants often aim at either compensate for inadequate fiscal autonomy and displace own-source revenues or rectify structural inequalities. In order to achieve the latter goal, countries employ intergovernmental equalisation systems that mitigate regional differences in fiscal capacity and expenditure needs by redistributing funds from wealthier governments to governments that face higher per capita costs or lower per capita revenue capacities (Dougherty, Nebreda, et al., 2022). As a result, if structural regional inequalities rise, then equalisation transfers should reflect these changes.

## 5. Conclusion

### ***Going forward, SNGs will likely face slower revenue growth, additional spending pressures and higher borrowing costs***

As a result of rising inflation (refer to Figure 1), in most major OECD economies, central banks have been raising their policy interest rates at a pace not seen since the 2008-09 global financial crisis. In addition, quantitative tightening has been implemented or at least considered by the monetary authorities, which can put additional pressure on long-term interest rates. Figure 18 shows that these measures have already

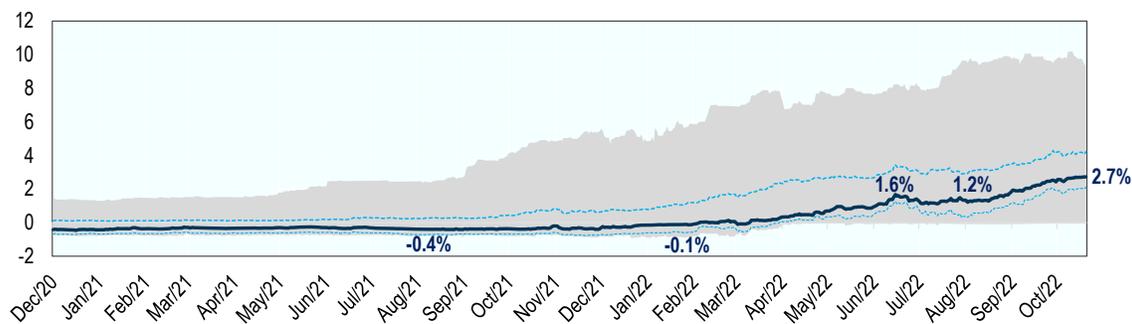
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<sup>19</sup> A critical example of this is the drop in neon gas production which whereby 50% of the global supply is from Donetsk and Odessa Oblasts – as a critical input for semiconductors (which are themselves a critical input for much of the world's newest tech goods) this is not an easy task (OECD, 2022f).

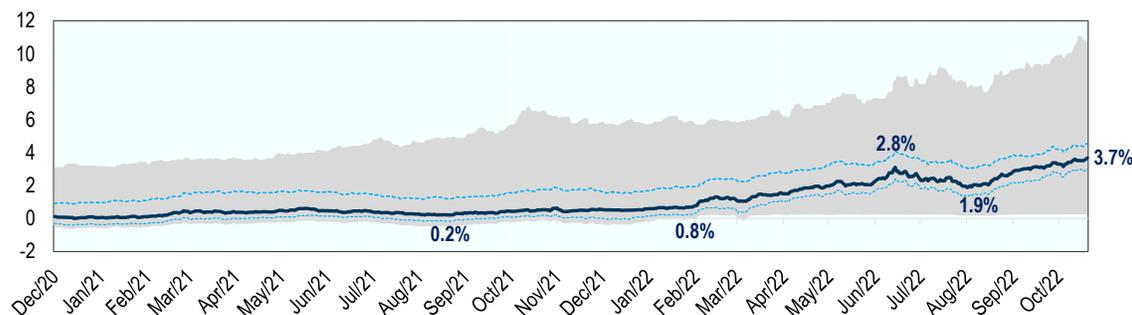
affected interest rates across the curve, which in turn has already been affecting government borrowing costs. Changes in 2-year government bond median yields rose from -0.4% to 2.7% in less than 15 months. Concerning 10-year government bonds yields, the hike was even more substantial, from 0.2% to 3.7% in the same period. In some countries, this increase was even more significant, reaching nearly 9pp (e.g., Hungary), which can have a significant fiscal impact on indebted governments, regardless of the level of government they are.

**Figure 17. Movements in government bond yields across the curve in OECD countries**

*Panel A. Changes in 2-year government bonds yields over the last 24 months based on OECD countries (%)*



*Panel B. Changes in 10-year government bonds yields over the last 24 months based on OECD countries (%)*



Note: Interest rates in percentages. Charts show the evolution of several metrics (grey area is difference between minimum and maximum, 25<sup>th</sup> percentile, 75<sup>th</sup> percentile, median) of 2 and 10-year benchmark government bond yields. For visualisation purposes, outliers were removed (Türkiye, Mexico, Colombia and Costa Rica).

Source: Authors based on Refinitiv.

An increase in bond yields of this magnitude can have substantial effects on SNGs borrowing costs. SNGs usually borrow through loans or through the issuance of bonds with a relatively long maturity, leaving the money market (market of securities with a short maturity, such as from one day to one year) to central governments. Moreover, they also pay higher risk premia. As a result, SNGs are particularly exposed to rising long-term yields, which are those that rose the most over the last months. In addition, implicit inflation (i.e., the expected inflation estimated considering bonds' yields) suggests that central banks are going to control inflation in the medium-term. This means that continued high inflation rates are not priced in and, therefore, if inflation were to continue longer than currently expected, long-term yields are going to increase significantly. Although unexpected inflation is beneficial to debtors, by eroding the value of the outstanding debt, once inflation's expectations are revised up, even if the inflation decreases, borrowers will, for an extended period, have to pay higher inflation risk premia. Therefore, future inflation expectations are crucial for avoiding hikes in long-term yields and, as a consequence, on SNGs borrowing costs at a moment in which their debts are at historic highs (refer to Figure 6) and their fiscal balances will likely deteriorate.

***Central governments' delicate financial situation will likely hinder future substantial central support to SNGs***

Another additional risk comes from the fact that central governments are in a significantly worse position than SNGs at the moment. Not only have they absorbed most of the COVID-19 shock (Dougherty & De Biase, 2021), but they are also absorbing the fiscal costs of cushioning households' living standards at a time of high energy and food inflation and, in some countries, are planning to increase defence spending. There are also limits to the extent to which national fiscal policy can be stretched, as they might also put pressure on prices, prompting reactions from central banks to raise policy interest rates even more and, thus, affect debt servicing costs. Stretching central governments' fiscal policy more than necessary at this delicate moment could backfire and affect them – as well as SNGs – through higher borrowing costs, leading to a dangerous reinforcing spiral.

As a consequence, SNGs will be less likely to receive generous support from central governments if the situation deteriorates. For this reason, it is crucial that SNGs build budgetary buffers in addition to engaging in efforts to raise revenues if needed. In other words, SNGs will likely have to face these financial pressures with a credible fiscal plan and with a clear guidance about the trajectory of their finances and proper monitoring of their liquidity needs and debt sustainability. As there is evidence that the degree of autonomy of SNGs is correlated with the speed with which they recover their finances from negative shocks (Shoag et al., 2017), local/regional ownership of these plans is particularly important.

Lastly, it is critical to keep in mind that the impact of this crisis on Ukraine is on a vastly higher order of magnitude than elsewhere – see, for instance, OECD (2022k) for a perspective from a Ukrainian government official on the impact of Russia's aggression on Ukraine's government debt. Rebuilding the country's destroyed infrastructure will be a vast collective effort, to be aided by multilateral institutions, OECD countries and other partners, while the large number of lives that have been lost will remain only as memories to be honoured.<sup>20</sup> The role of subnational governments in this process will be especially relevant to ensure that the revamped policy framework, established between 2014 and 2021, to decentralise government functions, is supported by ongoing efforts to strengthen subnational capacity, while fostering intergovernmental collaboration and transparency in the use of funds as well as implementation of policies (OECD, 2022l).

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<sup>20</sup> See URC (2022) for a discussion on Ukraine's future recovery process.

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